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(54) DIRECTIONAL LOUDSPEAKER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a directional loudspeaker that can optionally and optimally adjust directions and positions of a region where sound can hardly be listened to and a plurality of regions where different kind of sound can be heard.

SOLUTION: In the loudspeaker with directivity, 1st and 2nd speakers 6a, 6b are placed side by side at an interval of $1/8$ to one wavelength with respect to an emitted sound wave and emit the sound wave including 1st and 2nd acoustic signal components. First and second digital filters 3a, 3b are respectively interposed between the 1st and 2nd speakers 1a, 1b and the 2nd and 1st speakers so as to cancel the 1st and 2nd acoustic signal components in the sound waves emitted

from both the speakers in different regions in the listening space through interference between the sound waves. An error microphone 7 provided in the vicinity of both the speakers adjusts filter coefficients to an optimum value via 1st and 2nd filter adjustment units 9a, 9b thereby setting and updating directions and positions of cancellation regions A, B.

